

Amendments to the Claims

1. (currently amended) A radiation flux imaging system comprising:
a non-imaging radiation detection device;
a position sensor, to detect the position and orientation of said radiation detection [[means]] device;
a contact sensor to detect contact of said radiation detection [[means]] device
with a surface to be imaged;
a processor to process position and orientation data from said position sensor,
the presence or absence of contact from said contact sensor and local radiation flux
from said radiation detection [[means]] device to determine the surface geometry of a
surface to be imaged and the corresponding field of radiation flux; and
a display to display said geometry and radiation flux field to a user.
2. (cancelled)
3. (previously presented) A system according to claim 1, wherein said
processor is configured to identify positions corresponding to inadequate data
collection, and to communicate those positions to a user, in use.
4. (currently amended) A system according to claim 1, further comprising a
biasing device to bias said radiation detection [[means]] device away from a surface to
be imaged, and a processor to calculate the depth of a radiation source below said
surface to be imaged by comparison of the local radiation flux in the biased and
unbiased positions.
5. (previously presented) A system according to claim 1, further comprising
a marking device to mark the surface to be imaged.
6. (cancelled)

7. (previously presented) A system according to claim 1, wherein the position sensor comprises a plurality of position sensors, fixed relative to each other, and the processor is configured to compare the measured relative positions of the said plurality of position sensors, thereby providing an identification of position measurement errors.

8. (previously presented) A system according to claim 1, wherein the processor identifies any radioactive source with an activity above a pre-set level and displays the position (s) of those/or that radioactive source (s) on the display.

9. (previously presented) A system as claimed in claim 8, wherein the pre-set level is determined by the processor and is a proportion of the activity level from the radioactive source with the highest activity level.